DOCUMENT RESUME

ED 268 295 CE 044 128

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TITLE Oregon High School and Community College Vocational Education Study. Final Report.
INSTITUTION Northwest Regional Educational Lab., Portland, Oreg.
SPONS AGENCY Oregon State Dept. of Education, Salem. Div. of Vocational Education.
PUB DATE Dec 85
NOTE 21p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Basic Skills; Career Choice; College Students; *Goal Orientation; High Schools; High School Seniors; *Occupational Aspiration; State Surveys; *Student Attitudes; *Student Educational Objectives; Two Year Colleges; *Vocational Education
IDENTIFIERS Oregon

ABSTRACT

Data were collected from high school vocational education seniors and students enrolled in community college vocational programs for use as baseline for a longitudinal followup study over the next five years. Two Oregon high schools and three community colleges participated. Findings indicated over 70 percent of the high school seniors in college preparatory, vocational, and general education programs planned to be working full or part time one year after high school graduation. Over 70 percent planned to attend postsecondary education one year after graduation. Of the college preparatory students, 71 percent planned to attend a four-year college; 27 percent of vocational students and 5 percent of general curriculum students also planned to attend. Of vocational concentrators, 27 percent planned to take academic courses at a community college; the same percentage planned to take vocational courses. Vocational students at both levels rated the quality of instruction very high and career counseling relatively low. Community college students rated high school reading skills high in preparation for college work but rated mathematics much lower. Vocational students at community colleges gave high marks to college efforts to prepare them for needed technical skills, but rated much lower help in speaking skills. (Survey results are appended.) (YLB)

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FINAL REPORT

OREGON HIGH SCHOOL AND COMMUNITY COLLEGE VOCATIONAL EDUCATION STUDY

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OREGON HIGH SCHOOL AND COMMUNITY COLLEGE
VOCATIONAL EDUCATION STUDY

Introduction

The Vocational Education Division of the Oregon Department of Education implemented a high school and community college vocational education study in the Spring of 1985. The purpose of the study was to collect data from high school vocational education seniors and students enrolled in community college vocational programs that can be used as baseline for a longitudinal follow up study over the next five years. Two high schools and three community colleges were contracted to participate in this study. Dr. Warren Suzuki of the Oregon State University was contracted to assist with the instrument design and to do the data analysis. Dr.Thomas Owens of the Northwest Regional Educational Laboratory was contracted to assist with the instrument design and to write the final report for the Oregon Department of Education.

Ms. Wanda Monthey of the Oregon Department of Education coordinated work on this project. Dr.Suzuki, Dr.Owens and Ms. Monthey met three times with representatives of the participating schools to develop jointly the survey instruments, plan data collection procedures and discuss preliminary data findings.

This report will discuss first the high school survey and results and then the community college survey and results. A summary of conclusions and recommendations is contained in the final part of this report followed by the appendices which contain the tabulation of the actual survey instruments.

High School Procedures

Jefferson High School and Sandy High School were the two high schools selected by the Oregon Department of Education to participate in this study. The survey instrument consisted of two versions, one for vocational and one for non vocational students. The vocational version asked students why they entered vocational education, had them rate various aspects of their vocational program and the outcomes of their vocational training, recorded their work experience activities while in high school and provided various background data. In addition high school records were analyzed to determine variables such as grade point average, occupational area of their vocational program, student service organizations and handicapped/disadvantaged status.

High School Results

Data were collected on 241 high school students at the end of the 12th grade. Seventy-two students were from Jefferson High School and 169 were from Sandy High School. Of the 241 students, 45 were vocational concentrators (took an average of 6.8 vocational classes and completed a prescribed vocational program), 73 were vocational explorers (took an average of 3.2 vocational classes but did not complete a prescribed vocational program), 51 were college preparatory students (took advanced placement college credit English or a top level English tract), and 71 were general curriculum students (without vocational education or the advanced English classes). Half of the students surveyed were female.

Table 1 reflects the primary vocational program areas of the vocational students surveyed. Accounting, marketing, agriculture and mechanics accounted for half of those surveyed.

TABLE 1

PRIMARY VOCATIONAL PROGRAM AREAS OF STUDENTS SURVEYED
(N=117)

Areas	Percentage
Accounting	15
Marketing	15
Agriculture	11
Mechanics	11
Secretarial	9
Clerical	9
Metals	6
Drafting	4
Construction	4
Electronics	3
Forest Products	3
General Business	3
Industrial Arts	3
Diversified Occupations	3

Eleven percent, or 27 of the students surveyed, were reported as handicapped and 9.5 percent were economically or academically disadvantaged, according to school records. As is true for national studies of high school seniors, top grades were received by college preparatory students, average grades by vocational students and lower grades by general students. Table 2 shows the mean grade point average recorded by category of student.

TABLE 2

OVERALL GRADE POINT AVERAGE
OF HIGH SCHOOL SENIORS

Group	Mean*
Vocational Concentration	2.33
Vocational Explorers	2.41
General Curriculum	2.18
College Preparation	3.42

*An analysis of variance indicated a signficant difference at the .001 level among groups, with college prep students being highest and general students lowest.

Vocational students were asked why they decided to enter a vocational education program in high school. As shown in Appendix A, question 1, vocational concentrators most frequently joined because of an interest in the area while vocational explorers were divided between an interest in the area and wanting to learn specific job skills. Non-vocational students decided not to enter vocational education primarily because they needed to take other courses to reach their goals although eight percent of the college preparatory students listed as a main reason that being in academic courses has more status.

In rating aspects of their vocational education program, vocational concentrators rated each aspect slightly higher than did the explorers. As shown in Appendix A, question 2, highest ratings were given to the quality of the instruction, work experience and overall vocational experiences. Career counseling and up-to-date materials received somewhat lower ratings. If it had not been for having a chance to take vocational education in high school, approximately six or seven percent of the vocational students indicated they would have dropped out of high school. The same percentage was found several years ago in a state wide three-year Oregon high school follow-up study.

In assessing the outcomes of vocational education, vocational students were most satisfied that they were well prepared in getting along with others, being willing to learn new things, and in being able to follow directions. These are traits that employers keep saying are important in entry level employees.

Students were asked five questions related to their self-concept and feelings of control over their lives. Vocational concentrators and college prep students were slightly more positive in their attitude toward self than were vocational explorers or general curriculum students. College prep students were statistically higher in their self-rating of ability to do things as well as most other people and in feeling that they were not stopped from getting ahead by others.

Students were asked about their plans one year after graduation. Students were able to select one or more choices. In the year following graduation, 40 percent of the vocational concentrators plan to be working fulltime, 36 percent plan to enter an apprenticeship or on the job training program, 27 percent plan to take academic courses at a community college, 27 percent plan to take vocational or technical courses at a community college, and 27 percent plan to attend a four-year college or university. See Table 3 for a more detailed breakout and a national sample comparison of high school seniors.

TABLE 3
STUDENT PLANS ONE YEAR AFTER HIGH SCHOOL BY CATEGORY

	Voc Ed Concen.	Voc Ed Expl	Gen Cur.	Col Prep	National Comparison*
Working full time	40	38	56	22	29
Working part time	31	41	37	53	
Apprenticeship/OJT program	36	12	35	10	2
Military service	9	7	21	4	3
Homemaker	0	6	5	0	1
Trade/Business School	18	21	30	14	6
Academic courses at Community College	27	22	47	26	9
Vocational courses at Community College	27	14	26	16	6
College or university	27	26	5	71	38
Other (travel,take a break)	16	30	51	31	3
No plans	7	4	9	0	

*At the national level seniors were asked, "What is the one big thing that most likely will take the largest share of your time in the year after you leave school?" In Oregon, students were allowed to select all that applied.

Aproximately 80 percent of the students reported having a paid job during the school year. Many of them work more than 20 hours a week. For example, 31 percent of the vocational concentrators worked over 20 hours a week as did 41 percent of the vocational explorers, 37 percent of the general students, and 14 percent of the academic students.

An analysis was also conducted of recorded grade point average (GPA) of these high school students. On overall high school GPA, there was a significant difference between groups. College prep students had a 3.42, vocational explorers a 2.41, vocational concentrators a 2.33, and general students a 2.18. On GPA for vocational courses only, the vocational concentrators averaged 2.80 while explorers had a 2.48. It is interesting to note that the vocational explorers were somewhat higher than vocational concentrators on overall GPA while somewhat lower on vocational coursework GPA.

Community College Findings

Survey responses were completed by 608 students at Portland Community College, Treasure Valley Community College and Umpqua Community College. The largest number came from Portland Community College. Table 4 shows the distribution for vocational and non-vocational students across all three community colleges. Sixty percent of the vocational students were female and 66 percent of the non vocational students were female. Approximately 10 percent of the students were minority. The largest minority group represented was Asian and Pacific (six percent). Tabulated responses to the community college survey are shown in Appendix B.

TABLE 4
DISTRIBUTION OF RESPONSES BY SCHOOL AND VOCATIONAL STATUS

	Vocational	Non-Vocational
Portland Community College	333	61
Treasure Valley Community College	70	36
Umpqua Community College	107	1
	510	98

For vocational education students in community college, the primary reason for entering their educational program was preparation for a job (74 percent) and to a lesser extent (19 percent) to improve existing job skills. Non-vocational students enrolled for university transfer credit (47 percent) or to prepare for a job (41 percent).

Both vocational and non-vocational students were asked to rate various features of their community college. Table 5 shows the ratings by vocational students in rank order. For a comparison of ratings by non-vocational students, see Appendix B. As can be seen from Table 5, the quality of instruction and advising by instructors were given highest ratings while counseling center advising and quantity of equipment received lowest ratings.

TABLE 5
RANK ORDER OF SELECTED COMMUNITY COLLEGE FEATURES
BY VOCATIONAL STUDENTS

College Features	Mean Rating*
Quality of Instruction	4.17
Advising by Instructors	4.00
Facilities, classroom and laboratory	3.88
Veterans' services	3.85
Up-to-date material	3.76
Overall services	3.71
Condition of equipment	3.67
Orientation	3.67
Tutoring	3.62
Up-to-date equipment	3.61
Quantity of equipment	3.58
Counseling Center Advising	3.42

*Ratings were based on a five point scale.

Students were asked also to rate the college's efforts in preparing students for employment or further education in six areas. Table 6 shows the rank order of ratings by vocational and non-vocational students. As was true in other studies, vocational students ranked highest the technical and job skills while speaking skills which are seldom formally taught in vocational courses were ranked lowest. On the other hand, non-vocational students ranked reading skills highest and technical and job skills lowest.

TABLE 6
MEAN RATINGS OF THEIR COLLEGES' EFFORTS
IN PREPARING STUDENTS FOR EMPLOYMENT
OR FURTHER EDUCATION

Areas	Vocational Students	Non-Vocational Students
Technical Knowledge	3.4*	2.9
Hands-on job skills	3.3	2.7
Reading skills	3.0	3.2
Writing skills	3.0	3.3
Math skills	3.0	3.0
Speaking skills	2.7	3.0

*Ratings were based on a five point scale.

Students were also asked to indicate if they planned further education. Interestingly, 57 percent of the vocational and 85 percent of the non-vocational students have signed up for or plan further education. Table 7 shows the current work status of students in relation to the community college major. In the opinion of the vocational students working fulltime, 23 percent are employed in jobs directly related to their major. Prior to enrolling in community college, only 10 percent of these students were employed in jobs directly related to their major.

Additional analysis of the data by Dr.Suzuki indicated that:

- In comparing community college ratings by vocational and non-vocational students, vocational students gave significantly higher ratings to veterans' services provided.
- When comparing salaries of vocational students working full time, males averaged $15,087 annually while females averaged $9,996.

TABLE 7
CURRENT EMPLOYMENT STATUS IN RELATION TO
STUDENT MAJOR BY TYPE OF STUDENT

	Vocational Students		Non-Vocational Students	
	Full-time	Part-time	Full-time	Part-time
Directly related to your major	23	14	3	10
Related to your major	9	9	10	9
Not related to your major	5	14	16	16
Unemployed, seeking employment	21	8	11	4
Military, fulltime active duty	2	1	0	0
Unavailable for employment	6	3	15	8

Conclusions and Recommendations

1. Over 70 percent of the high school seniors surveyed plan to be working full or part time one year after high school graduation. This was true for those in a college preparatory program as well as for vocational and general education students. These statistics suggest that a key role of high schools should be to prepare young people to enter and be successful in the workworld.

2. Over 70 percent of those surveyed seniors plan to attend some form of postsecondary education one year after graduation from high school. As might be expected, 71 percent of the college preparatory students plan to attend a four year college while 27 percent of vocational students and five percent of the general curriculum students also plan to attend. For vocational concentrators, the same percentage (27 percent) plan to take academic courses at community college as plan to take vocational courses. This suggests the need for high schools to give students a solid basic skills foundation which will help them in whatever form of postsecondary education they pursue.

3. Vocational students at both the high school and community college level rated the quality of instruction very high and career counseling relatively low. Given what we know about the uncertainty of many young people regarding the type of occupations they desire and the high cost of training for a career that never develops, there appears to be a strong need to upgrade career counseling for students. Given the high student-counselor ratios in many schools, perhaps teachers or others outside of the school, may need to be better trained to help guide students in their career decision making.

4. Over 30 percent of the high school vocational and general curriculum students are working more than 20 hours a week during the school year and 10 percent are working full time. Except for the relatively small percentage of students in cooperative work experience, the rest seldom have any linkage between what occurs in the classroom and what occurs at the job site. Teachers may want to learn more about the nature of their students' employment and find ways to apply some of their classroom instruction to experiences students encounter on the job. For students not doing well academically, educators may want to investigate the number of hours such students are working and suggest a reduction in hours, where possible, if a student's work is interfering with learning.

5. In terms of high school basic skills, community college students rated their high school reading skills high in preparation for college work but rated math much lower. Eleven percent of the vocational students in community college rated their high school math preparation as D or F, while 25 percent of the non-vocational students gave their high schools low marks in math preparation. These findings support those from a three-year high school follow up study in Oregon that indicated that over half of the former students wish they had taken more math while in high school. (Owens, 1984)

6. Vocational students at the community college level give high marks to their college's efforts to prepare them for the technical skills needed for employment or further education. However, they rate much lower the help they are receiving in speaking skills. Although most vocational courses give little formal attention to speaking skills, such skills are often important on the job especially for managers and supervisors. Therefore, community college staff may want to give this a higher emphasis.

APPENDIX A
VOCATIONAL EDUCATION STUDENT SURVEY TWELFTH GRADE LEVEL
(N=241)

This survey will be used to help us learn about the vocational education program in our school. Your answers will be combined with those of other students and never identified with you. Please answer each item as well as you can.

	Percent	
	Voc Con	Voc Exp*
1. What is the main reason you decided to enter a vocational educational program? (CIRCLE ONLY ONE NUMBER.)		
My friends were in the program.	2	3
I wanted to learn specific job skills.	27	44
I didn't like the general school courses.	0	5
My parents or relatives advised me to enroll.	5	3
I have an interest in the area.	64	45
My counselor or teachers advised me to enroll.	0	0
Other reason (Please state)	2	0

2. How satisfied are you with the following aspects of your current high school vocational education program? (CIRCLE ONE NUMBER rating for each aspect.) For example, if you are satisfied with the quality of instruction, circle 2. If you are very dissatisfied, circle 4. If you have not had experiences with some aspect(s), circle DK, "Don't Know.")

	Voc Con	Voc Exp	Gen Cur	Col Prep
Quality of the instruction	1.89	2.01	2.15	1.98
Counseling about careers	2.12	2.35	2.19	2.27
The instructional materials are up-to-date	2.14	2.17	2.24	2.04**
Work experience which is part of your vocational program	1.89	2.21	2.00	2.00**
Overall, how satisfied are you with the vocational education you have received in high school	1.89	1.97	2.00	1.00

*Data shown in this Appendix are from four groups of seniors: vocational concentrators (Voc Con), vocational explorers (Voc Exp), general curriculum students (Gen Cur), and college preparatory students (Col Prep).

**Indicates significant differences at the .05 level between groups

3. If you did not have the chance to take the courses you selected for the past two years in school, to what extent would you consider dropping out of school? (CIRCLE ONE NUMBER.)

	Voc Con	Voc Exp
I definitely would not drop out.	63	76
I probably would not drop out.	30	18
I probably would drop out.	2	6
I definitely would drop out.	5	0

4. As a result of your educational program, how well prepared do you feel in each of the areas listed below? (CIRCLE ONE NUMBER for each area.)

	Voc Con	Voc Exp	Gen Cur	Col Prep
Vocational or technical skills	2.09	2.16	2.00	2.00
Knowing how to look for and obtain a job.	2.05	2.00	1.88	1.96
Being able to follow directions	1.68	1.69	1.60	1.48
Willing to learn new things	1.61	1.56	1.54	1.50
Being on time for work or in completing tasks	1.81	1.63	1.77	1.70
Getting along with others	1.53	1.53	1.51	1.37
Preparing a job resume	2.12	2.21	2.14	2.20
Interviewing for a job			1.98	1.96
Using reading skills to do job tasks			1.93	1.58
Using math skills to do job tasks			2.21	1.82
Being aware of both the positive as well as the negative aspects of jobs..			1.83	1.87
Understanding the importance of being productive on the job.			1.76	1.60
Being able to use speaking and listening skills in work situations	1.98	1.91	1.67	1.61*

*Significant difference between groups at the .05 level on this item. Areas beginning with "Interviewing for a job" to "Understanding the importance of being productive on the job" were asked only of the non-vocational students.

5. How well do you feel your high school education will help you or prepare you for the first full-time year-around-type job you take after leaving high school? (CIRCLE ONE)

	Scale	Mean Voc Con	Mean Voc Exp
Will help me very much	1		
Will help me a little	2	1.64	1.79
Will not help me at all	3		

6. How do you feel about each of the following statements? (CIRCLE ONE NUMBER for each rating.) Mean on a four point scale

	Voc Con	Voc Exp	Gen Cur	Col Prep
I take a positive attitude toward myself.	1.68	1.79	1.84	1.65
Good luck is more important than hard work for success.	3.09	3.18	309	3.25
I am able to do things as well as most other people.	1.82	1.89	1.95	1.57*
Every time I try to get ahead, something or someone stops me.	2.86	2.56	2.79	3.16**
When I make plans, I am almost certain I can make them work.	1.95	1.90	2.07	1.80

7. What is the one thing that most likely will take take the largest share of your time in the year after you leave high school? (CIRCLE ALL THAT APPLY)

	Voc Con	Voc Exp	Gen Cur	Col Prep
Working full time	40	38	56	22
Working part time	31	41	37	53
Entering an apprenticeship or on-the-job training program.	36	12	35	10
Going into regular military service (or service academy)	9	7	21	4
Being a full-time homemaker	0	6	5	0

* Significant difference at .05 level between groups.
** Significant difference at .01 level between groups.

Taking vocational or technical courses at a trade or business school full time or part time	18	21	30	14
Taking academic courses at a junior or community college full time or part time.	27	22	47	26
Taking technical or vocational subjects at a junior or community college full time or part time.	27	14	26	16
Attending a four-year college or university full-time or part-time	27	26	5	71
Other (travel, take a break)	16	30	51	31
No plans	7	4	9	0

8. What work experience have you had in high school? (CIRCLE ALL THAT APPLY.)

	Voc Con	Voc Exp	Gen Cur	Col Prep
Have not worked	13	4	28	8
Lawn work or odd jobs	44	44	58	49
Waiter or waitress in a restaurant or drive in	24	56	44	47
Babysitting or child care	33	59	47	69
Farm or agricultural work	42	43	47	47
Factory work, unskilled or semi skilled	7	12	9	10
Skilled trade	20	12	21	20
Other manual labor	31	25	47	28
Store clerk or salesperson	13	30	26	20
Office or clerical	20	18	14	24
Hospital or health	2	6	5	3

9. How many hours do you normally work at a paid job or in a family business during the school year (CIRCLE ONE NUMBER.)

	Voc Con	Voc Exp	Gen Cur	Col Prep
None, do not work for pay	20	18	23	18
1 to 4 hours per week	11	4	9	8
5 to 14 hours per week	13	15	19	28
15 to 21 hours per week	24	22	12	33
22 to 29 hours per week	16	11	23	8
30 to 34 hours per week	4	19	5	4
35 hours or more per week	11	11	9	2

10. Ethnic Background (CIRCLE ONE NUMBER.)

	Voc Con	Voc Exp	Gen Cur	Col Prep
Asian or Pacific Islander	0	0	3	0
Black	0	1	3	2
White	91	93	81	96
Hispanic	0	3	5	0
American Indian/Native American	9	3	5	0

Questions added only for non-vocational students

1. What was the main reason you did not decide to enter a vocational educational program? (CIRCLE ONLY ONE NUMBER.)

	Percent	
	Gen Cur	Col Prep
My friends were in other courses.	3	0
I did not like the program.	26	4
Being in academic courses has more status.	0	8
My parents or relatives advised me not to enroll.	3	0
My counselor or teachers advised me not to enroll.	3	0
It was necessary for me to take other courses to reach my goals.	39	78
I plan to delay my training in a vocational education area until after I finish high school.	8	4
Other reason (Please state)	21	6

APPENDIX B

COMMUNITY COLLEGE LONGITUDINAL QUESTIONS
(N=608)

1. What was your PRIMARY objective for entering this educational program?

VE*	NVE	
19	7	Improvement of existing "job skills"
74	41	Preparation for "job to be obtained"
10	47	University transfer credit
10	14	Personal interest

2. To what extent has this objective been completed?

VE*	NVE	
62	43	Fully completed
35	50	Partially completed
3	7	Not completed

3. How would you grade (A, B, C, D, F) the college's efforts in the following areas in preparing you for employment or further education?

Please place your answer (A, B, C, D, F) on the line next to each skill area.

	Vocational						Non-Vocational					
	A	B	C	D	F	Mean	A	B	C	D	F	Mean
Reading skills	33	41	21	4	2	3.0	45	38	14	0	3	3.2
Writing skills	37	40	16	5	2	3.0	46	42	12	0	0	3.3
Math skills	36	37	19	4	5	3.0	44	27	18	8	2	3.0
(Hands-on) job skills	54	30	11	3	2	3.3	31	24	31	6	8	2.7
Technical knowledge	53	35	10	2	1	3.4	28	39	26	8	0	2.9
Speaking skills	27	36	27	6	5	2.7	31	42	23	2	1	3.0

*Figures shown are percentages for vocational education students (VE) and non-vocational students (NVE).

4. The following services are provided by the college. How would you evaluate each?
Please place the number of the most appropriate answer for each service in the space provided.

1 Excellent
2 Good
3 Average
4 Needs improvement
5 Poor
6 Don't know or didn't care

Percent Giving an Excellent Rating

VE	NVE		VE	NVE	
26	24	Instructor Advising	18	22	Library
16	26	Counseling Center Advising	14	13	Bookstore
15	17	Overall Services	10	7	Parking
18	22	Orientation	29	13	Veterans' Services
16	23	Registration	6	14	Student Government
27	32	Financial Aid	22	36	Tutoring
11	13	Food Service	18	8	Quality of Equipment
14	23	Admissions	15	7	Condition of Equipment
18	12	State-of-the-Art Equipment	24	14	Facilities, Classroom and Lab
21	11	State-of-the-Art Materials	41	40	Quality of Instructors

5. Do you currently have plans for additional education?

VE	NVE	
27	8	Yes, I plan to reenroll at this college.
27	19	Yes, I have already enrolled at another college.
30	66	Yes, I plan to enroll at another college.
21	12	I am currently undecided about any additional education.

6. How would you grade (A, B, C, D, F) your high school preparation for college work in the areas listed below:

Please place your answer (A, B, C, D, F) on the line next to each skill area.

	Vocational					Non-Vocational				
	A	B	C	D	F	A	B	C	D	F
Reading skills	45	29	20	4	2	43	26	21	6	3
Writing skills	38	29	24	7	2	34	28	25	8	6
Math skills	38	27	25	8	3	20	24	31	17	8
Technical knowledge	22	28	30	12	8	16	16	41	18	9

7. Check the box(es) which best describe your current employment status.

	Vocational Students		Non-Vocational Students	
	Full-time	Part-time	Full-time	Part-time
Directly related to your major	23	14	3	10
Related to your major	9	9	10	9
Not related to your major	5	14	16	16
Unemployed, seeking employment	21	8	11	4
Military, full time active duty	2	1	0	0
Unavailable for employment	6	3	15	8

8. Check the box(es) which best describe your employment status prior to entering your current (vocational education) program.

	Vocational Students		Non-Vocational Students	
	Full-time	Part-time	Full-time	Part-time
Work directly related to your major	10	5	4	2
Work related to your major	7	7	6	3
Work not related to your major	23	18	35	18
Employed (full-time military service)	2	2	2	0
Unemployed (not employed, but actively seeking employment)	9	5	4	3
Not in the labor force (not employed and not seeking employment because of choice, illness, full-time student status, retirement, pregnancy or other such reasons)	8	8	9	11